ENVIRONMENTAL CHEMISTS

Date of Report: 05/20/99
Date Received: 05/18/99

Project: Metro KC Grab, PO# M79101 Date Samples Extracted: 05/18/99 Date Extracts Analyzed: 05/18/99

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLE FOR CHROMIUM, COPPER, NICKEL, ZINC USING METHOD 6010

Samples Processed Using Method 3005A

Results Reported as mg/L (ppm)

Sample ID		Chromium	Copper	<u>Nickel</u>	<u>Zinc</u>
M79101		0.54	0.56	0.58	0.06
Method Blan	\mathbf{k}	< 0.05	< 0.05	< 0.05	< 0.05

ENVIRONMENTAL CHEMISTS

Date of Report: 05/20/99 Date Received: 05/18/99

Project: Metro KC Grab, PO# M79101

QUALITY ASSURANCE RESULTS FOR TOTAL METALS BY INDUCTIVELY COUPLED PLASMA (ICP) (METHOD 6010)

Laboratory Code: 905076-01 (Duplicate)

				Relative		
	Reporting	Sample	Duplicate	Percent	Acceptance	ce .
Analyte	Units	Result	Result	Difference	Criteria	
Chromium	mg/L (ppm)	0.54	0.48	12	0-20	
Copper	mg/L (ppm)	0.56	0.47	17	0-20	
Nickel	mg/L (ppm)	0.58	0.55	5	0-20	
Zinc	mg/L (ppm)	0.06	0.09	40a	0-20	

Laboratory Code: 905076-01 (Matrix Spike)

	Reporting	Spike	Sample	% Recov	ery	% Recov	ery	Acceptance	
Analyte	Units	Level	Result	MS	5	MSD		Criteria	RPD
Chromium	mg/L (ppm)	5	0.54	86	1	93	100	80-120	8
Copper	mg/L (ppm)	5	0.56	93		95		80-120	2
Nickel	mg/L (ppm)	10	0.58	82		92		80-120	11
Zinc	mg/L (ppm)	5	0.06	89		93		80-120	4

Laboratory Code: Laboratory Control Sample

		Reporting	Spike	% Recover	y % Recov	ery Acceptance	9		
1	Analyte	Units	Level	LCS	LCSD	Criteria	, Ar	RPD	
્ૈ	Chromium	mg/L (ppm)	5	96	96	80-120		0	
	Copper	mg/L (ppm)	5	95	97	80-120		2	100
	Nickel	mg/L (ppm)	10	96	96	80-120		0	
	Zinc	mg/L (ppm)	5	96	96	80-120		0	

a - The analyte was detected at a level less than five times the detection limit. The RPD results may not provide reliable information on the variability of the analysis.

FRIEDMAN & BRUYA, INC.
3012 16th Avenue West
Seattle, WA 98119-2029 705076
(206) 285-8282

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SAMPLE CHAIN OF CUSTODY

Send Report To:	L 0					· ·			
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Address 678 Ho	Ho we	 + 981 8 4							
City, State, Zip Sead Phone # (206) 382	-8379	FAX #_(206) 3	82-4309	מ	ate_ <i>5-/8</i> -99			
SITE NO.		PROJ	ECT NAME	3	F	URCHASE ORDEI	R#		
7238		Metro KC	ands.		M7	5/01			
SAMPLERS (signature)	SAMPLERS (signature) PROJECT LOCATION								
8/8/3					3200	6th Au	S .		
REMARKS						DISPOSAL INFO	RMATION		
Rush To	Rush Today Cou with Results Dispose after 30 days Return Samples Call for Instructions								
Sample #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #		Analyses Requested			
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FORMS/COC

05/11/99

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Jensen, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

May 20, 1999

Gerry Thompson, Project Manager Alaskan Copper Works 628 South Hanford St. Seattle, WA 98134

Dear Mr. Thompson:

Included are the results from the testing of material submitted on May 18, 1999 from your Metro KC Grab, PO# M79101 project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Maruel Marti Project Manager

Enclosures ACU0520R.DOC

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Jensen, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S.

3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

May 20, 1999

DUPLICATE COPY

INVOICE #99ACU0520-1

Accounts Payable Alaskan Copper Works 628 South Hanford St. Seattle, WA 98134

RE: Project Metro KC Grab, PO# M79101: Results of testing requested by Gerry Thompson for material submitted on May 18, 1999.

1 water sample analyzed for
Chromium, Copper, Nickel, and Zinc
using Method 6010 @ \$80 per sample \$80.00

100 % Rush Surcharge 24 hr Turnaround \$80.00

Amount Due \$160.00

FEDERAL TAX ID (b) (6)